REMARKS/ARGUMENTS

Claims 1-29 were previously pending in the application. Claims 1, 5, 7-9, 11, 13, 17, 21, 23, and 26-29 are amended; and new claims 30-33 are added herein. Assuming the entry of this amendment, claims 1-33 are now pending in the application. The Applicant hereby requests further examination and reconsideration of the application in view of the foregoing amendments and these remarks.

The specification is amended to provide serial numbers of the cited U.S. patent applications. Claims 5, 11, 13, 21, and 23 are amended to correct an inadvertent error in the spelling of the word acknowledgment.

On page 2 of the office action, the Examiner rejected claims 1-9 under 35 U.S.C. § 103(a) as being unpatentable over Bokhorst in view of Benveniste. On page 4, the Examiner rejected claims 10-13, 16-23, and 26-29 under 35 U.S.C. § 103(a) as being unpatentable over Bokhorst in view of Benveniste and in further view of Meier. On page 11, the Examiner objected to claims 14-15 and 24-25 as being dependent upon a rejected base claim, but indicated that those claims would be allowable if rewritten in independent form. For the following reasons, the Applicant submits that all now-pending claims are allowable over the cited references.

Claims 1-29:

Independent claim 1 is amended to clarify that step (B) is performed based on the transmission of the closing frame to the access point (AP) performed in step (A). Support for this amendment can be found, e.g., in Applicant's Fig. 2A and the corresponding description. Independent claim 1 is further amended to recite a timer. Support for this amendment can be found, e.g., in original claim 7. Independent claims 17 and 26-29 are amended similar to independent claim 1.

Amended claim 1 is directed to a method implemented at a station of a contention-based WLAN system in which the station is adapted to operate in awake and doze states. The method comprises the steps of: (A) with the station in the awake state and an access point (AP) of the system informed that the station is in the awake state, transmitting to the AP a closing frame, wherein a designated bit in the closing frame informs the AP that the station will transition to the doze state, and (B) transitioning the station from the awake state to the doze state based on the transmission of the closing frame. Step (A) comprises starting a timer and transmitting the closing frame after the timer reaches a threshold value.

Bokhorst discloses a wireless communication system operable in a power-save mode. In the rejection of original claim 1, on page 2 of the office action, the Examiner pointed to Bokhorst's col. 6, lines 17-19, and the long paragraph starting at col. 6, line 43, and ending at col. 7, line 14, as teaching transitioning a station to a doze state upon transmission of a closing frame to the AP. However, the pointed-to text talks about transitions between continuous-active mode and power-save mode, and not, per se, between the awake and doze states. For example, col. 6, lines 17-19, read "The operation of the system in a second type of power-save mode, which is referred to as 'back-to-doze' mode will now be briefly described with reference to FIGS. 5 and 7" [emphasis added]. Similarly, col. 6, lines 63-67, read "The station, upon detecting that no further traffic is expected, or upon expiration of a fixed interval timer, sends an explicit message to the access point 16 to indicate a return to power-save mode, and the station then returns to power-save mode" [emphasis added].

The Applicant submits that (i) a transition from continuous-active mode to power-save mode and (ii) a transition from an awake state to a doze state are two different things. More specifically, as explained in Bokhorst's col. 4, lines 6-10, in a power-save mode, the station alternates between doze and awake states. Thus, the fact that the station transitions into a power-save mode does not necessarily

mean that the station transitions into a doze state; it simply means that the station is now ready to alternate between doze and awake states based on some additional conditions recognized by the station. It is therefore submitted that, without analyzing the additional conditions that trigger, in power-save mode of Bokhorst, transitions between doze and awake states, one cannot assert that Bokhorst's col. 6, lines 17-19, and col. 6, line 43, through col. 7, line 14, give an example of a method recited in claim 1.

One example of such additional conditions for transitioning into a doze state, while in a power-save mode, is given in Bokhorst's col. 6, lines 17-42. More specifically, these additional conditions are established by a sequence of two events. The first event is reception by the station of a traffic indicator message (TIM) indicating the number of data messages (frames) that the AP intends to transmit to the station during the corresponding inter-TIM (inter-beacon) interval. The second event is reception by the station of the last intended frame from the AP, after which reception the station does transition into a doze state. Another example of such additional conditions is given in Bokhorst's col. 5, lines 18-62. More specifically, these additional conditions are established by reception of a TIM indicating that no data messages will be transmitted from the AP to the station during the corresponding inter-TIM interval. After this reception, the station transitions into a doze state (see, e.g., Bokhorst's Fig. 6, TIM-2, stations 3 and 4, and TIM-3, station 2). It is apparent from the above description that, in Bokhorst, a transition to a doze state is based on (triggered by) reception of a frame from the AP, and not by transmission of a (closing) frame from the station to the AP. In contrast, claim 1 explicitly specifies that the station transitions from the awake state to the doze state based on the transmission of the closing frame.

Throughout his specification, Bokhorst discloses the use of various timers, which are briefly described below in the order of their appearance in Bokhorst's specification. As shown below, none of the timers disclosed by Bokhorst is an example of the timer recited in claim 1. For example, in reference to Fig. 2, in col. 3, line 42, through col. 4, line 15, Bokhorst discloses doze timer **46**, which starts when the station transitions from an awake state to a doze state. When doze timer **46** runs out (reaches a threshold value), the station transitions from a doze state to an awake state (see col. 4, lines 2-3). Doze timer **46** is not an example of the timer recited in claim 1, because the claim language explicitly specifies that, when the latter timer reaches a threshold value (runs out), a transition in the opposite direction, i.e., from an awake state to a doze state, is initiated.

In reference to Fig. 3, in col. 4, lines 16-39, Bokhorst discloses TIM timer **62**, which controls transmission of TIMs by the AP. TIM timer **62** is not an example of the timer recited in claim 1, because the AP is always awake and, as such, does not undergo any transitions between awake and doze states.

In col. 6, lines 63-67, Bokhorst discloses a "fixed interval timer." The fixed interval timer of Bokhorst is not an example of the timer recited in claim 1, because this fixed interval timer initiates transitions from continuous-active mode to power-save mode, while the timer recited in claim 1 initiates transitions from an awake state to a doze state. Differences between these two types of transitions have already been explained above.

In col. 7, lines 39-49, Bokhorst further discloses doze timer **246**, PSYNC timer **250**, transmit holdover timer **252**, and receive holdover timer **254**. Doze timer **246** is analogous to the above-discussed doze timer **46** (see, e.g., col. 8, lines 43-45) and, as such, is not an example of the timer recited in claim 1. PSYNC timer **250** is analogous to the above-discussed TIM timer **62** (see, e.g., Fig 10 and the associated text) and, as such, is not an example of the timer recited in claim 1. Transmit holdover timer **252** and receive holdover timer **254** are used to keep the station in an awake state to enable transmission/reception of messages in an "ad hoc" network (shown in Bokhorst's Fig. 8) that does not have an AP. Neither of holdover timers **252** and **254** is an example of the timer recited in claim 1, because neither of these timers is used to initiate transitions from an awake state to a doze state.

To summarize, Bokhorst does not teach or suggest that: (1) the station transitions from the awake state to the doze state based on the transmission of the closing frame and (2) the closing frame is transmitted after a timer reaches a threshold value. For at least these reasons, the Applicant submits that claim 1 is allowable over Bokhorst.

Furthermore, combining the teachings of Bokhorst with the teachings of Benveniste and Meier does not remedy the above-indicated deficiencies of Bokhorst with respect to claim 1 at least because Benveniste and Meier, independently or in combination, do not teach or suggest the use of a timer analogous to that recited in claim 1. For example, Benveniste discloses several power-saving mechanisms for 802.11 clients. The only timer mentioned by Benveniste in his entire specification is "the backoff timer of downlink frames" (see Benveniste's paragraph [0032]). The backoff timer of Benveniste is not an example of the timer recited in claim 1 because this backoff timer controls the AP and the AP does not transition to a doze state.

Meier discloses a power-save method for 802.11e stations. The only timer mentioned by Meier in his entire specification is a distributed TSF timer, where the acronym TSF stands for the 802.11e timer synchronization function. The distributed TSF timer of Meier is not an example of the timer recited in claim 1 because this "distributed TSF timer is used to synchronize wake-up times" (see Meier's paragraph [0057]) and, as such, initiates transitions from a doze state to an awake state. As already indicated above, the timer recited in claim 1 initiates transitions in the opposite direction, i.e., from an awake state to a doze state.

For all these reasons, the Applicant submits that claim 1 is allowable over the cited references. For similar reasons, the Applicant submits that claims 17 and 26-29 are also allowable over the cited references. Since claims 2-16 and 18-25 depend variously from claims 1 and 17, it is further submitted that those claims are also allowable over the cited references. The Applicant submits therefore that the rejections of claims under § 103(a) have been overcome.

Claims 30-33:

New claims 30-33 are equivalent to original claims 14, 15, 24, and 25, respectively, rewritten in independent form. Since original claims 14, 15, 24, and 25 were indicated as allowable, the Applicant submits that claims 30-33 are allowable.

In view of the above amendments and remarks, the Applicant believes that the now pending claims are in condition for allowance. Therefore, the Applicant believes that the entire application is now in condition for allowance, and early and favorable action is respectfully solicited.

Respectfully submitted,

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